



[6450-01-P]

DEPARTMENT OF ENERGY

[Case No. 2017-013]

**Notice of Petition for Waiver of GD Midea Heating & Ventilating Equipment Co., Ltd.
from the Department of Energy Central Air Conditioners and Heat Pumps Test Procedure,
and Notice of Grant of Interim Waiver**

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notice of petition for waiver and grant of an interim waiver, and request for comments.

SUMMARY: This notice announces receipt of and publishes a petition for waiver from GD Midea Heating & Ventilating Equipment Co., Ltd. (GD Midea) seeking a waiver from the U.S. Department of Energy (DOE) test procedure for determining the efficiency of central air conditioners (CACs) and heat pumps (HPs). GD Midea seeks to use an alternate test procedure to address issues involved in testing certain basic models identified in its petition. According to GD Midea, the appendix M test procedure does not include a method for testing specified CAC and HP basic models that use variable-speed compressors and are matched with a coil-only indoor unit (hereafter referred to as “variable-speed coil-only single-split systems”). GD Midea requests that it be permitted to test its variable-speed coil-only single-split systems with the cooling full-load air volume rate used as both the cooling intermediate and minimum air volume rates, and the heating full-load air volume rate used as the heating intermediate air volume rate. This notice announces that DOE grants GD Midea an interim waiver from the DOE CAC and HP

test procedure for its specified basic models, subject to use of the alternate test procedure as set forth in the Order. DOE solicits comments, data, and information concerning GD Midea's petition and the alternate test procedure.

DATES: DOE will accept comments, data, and information with respect to the GD Midea petition until **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at <http://www.regulations.gov>. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by case number "2017-013" and Docket number "EERE-2017-BT-WAV-0060," by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
- *E-mail:* Midea2017WAV0060@ee.doe.gov. Include the case number [Case No. 2017-013] in the subject line of the message.
- *Postal Mail:* Ms. Lucy deButts, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, Petition for Waiver Case No. 2017-013, 1000 Independence Avenue, SW., Washington, DC 20585-0121. If possible, please submit all items on a compact disc (CD), in which case it is not necessary to include printed copies.
- *Hand Delivery/Courier:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L'Enfant Plaza, SW., 6th Floor,

Washington, DC, 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimilies (faxes) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section V of this document.

Docket: The docket, which includes *Federal Register* notices, comments, and other supporting documents/materials, is available for review at <http://www.regulations.gov>. All documents in the docket are listed in the <http://www.regulations.gov> index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

The docket Web page can be found at <http://www.regulations.gov/docket?D=EERE-2017-BT-WAV-0060>. The docket Web page contains instruction on how to access all documents, including public comments, in the docket. See section V for information on how to submit comments through <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Ms. Lucy deButts, U.S. Department of Energy, Building Technologies Program, Mail Stop EE-5B, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0121. E-mail: AS_Waiver_Requests@ee.doe.gov.

Mr. Pete Cochran, U.S. Department of Energy, Office of the General Counsel, Mail Stop GC-33, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0103.
Telephone: (202) 586-9496. E-mail: *peter.cochran@hq.doe.gov*.

SUPPLEMENTARY INFORMATION:

I. Background and Authority

Title III, Part B¹ of the Energy Policy and Conservation Act of 1975 (EPCA), Public Law 94-163 (42 U.S.C. 6291-6309, as codified) established the Energy Conservation Program for Consumer Products Other Than Automobiles, which includes central air conditioners and heat pumps.² Part B includes definitions, test procedures, labeling provisions, energy conservation standards, and the authority to require information and reports from manufacturers. Further, Part B requires the Secretary of Energy to prescribe test procedures that are reasonably designed to produce results that measure energy efficiency, energy use, or estimated operating costs during a representative average-use cycle, and that are not unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The test procedure for central air conditioners and heat pumps is contained in 10 CFR part 430, subpart B, appendix M (referred to in this notice as “appendix M”).

DOE’s regulations set forth at 10 CFR 430.27 contain provisions that allow a person to seek a waiver from the test procedure requirements for a particular basic model of a covered product when the petitioner’s basic model for which the petition for waiver was submitted contains one or more design characteristics that either (1) prevent testing according to the prescribed test procedure, or (2) cause the prescribed test procedures to evaluate the basic model

¹ For editorial reasons, upon codification in the U.S. Code, Part B was re-designated as Part A.

² All references to EPCA in this document refer to the statute as amended through the EPS Improvement Act of 2017, Public Law 115–115 (January 12, 2018).

in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. 10 CFR 430.27(a)(1). A petitioner must include in its petition any alternate test procedures known to the petitioner to evaluate the basic model in a manner representative of its energy consumption. 10 CFR 430.27(b)(1)(iii).

DOE may grant a waiver subject to conditions, including adherence to alternate test procedures. 10 CFR 430.27(f)(2). As soon as practicable after the granting of any waiver, DOE will publish in the *Federal Register* a notice of proposed rulemaking to amend its regulations so as to eliminate any need for the continuation of such waiver. As soon thereafter as practicable, DOE will publish in the *Federal Register* a final rule. 10 CFR 430.27(l).

The waiver process also allows DOE to grant an interim waiver if it appears likely that the petition for waiver will be granted and/or if DOE determines that it would be desirable for public policy reasons to grant immediate relief pending a determination on the petition for waiver. 10 CFR 430.27(e)(2). Within one year of issuance of an interim waiver, DOE will either: (i) publish in the *Federal Register* a determination on the petition for waiver; or (ii) publish in the *Federal Register* a new or amended test procedure that addresses the issues presented in the waiver. 10 CFR 430.27(h)(1). When DOE amends the test procedure to address the issues presented in a waiver, the waiver will automatically terminate on the date on which use of that test procedure is required to demonstrate compliance. 10 CFR 430.27(h)(2).

II. GD Midea's Petition for Waiver of Test Procedure and Application for Interim Waiver

On October 27, 2017, GD Midea filed a petition for waiver and an application for interim waiver from the CAC and HP test procedure set forth in appendix M. According to GD Midea, appendix M does not include provisions for determining cooling intermediate air volume rate, cooling minimum air volume rate, and heating intermediate air volume rate for its variable-speed coil-only single-split systems. Consequently, GD Midea cannot test or rate these systems in accordance with the DOE test procedure. GD Midea stated that its variable-speed outdoor units are non-communicative systems (i.e., the outdoor unit does not communicate with the indoor unit) for which compressor speed varies based only on controls located on the outdoor unit and the indoor unit maintains a constant indoor blower fan speed.

GD Midea seeks to use an alternate test procedure to test and rate specific CAC and HP basic models of its variable-speed coil-only single-split systems, which would specify the use of cooling full-load air volume rates as determined in section 3.1.4.1.1.c of appendix M as cooling intermediate and cooling minimum air volume rates, and would specify the use of heating full-load air volume rates as determined in section 3.1.4.1.1.a of appendix M as heating intermediate air volume rate.

GD Midea also requests an interim waiver from the existing DOE test procedure. An interim waiver may be granted if it appears likely that the petition for waiver will be granted, and/or if DOE determines that it would be desirable for public policy reasons to grant immediate relief pending a determination of the petition for waiver. See 10 CFR 430.27(e)(2).

DOE understands that absent an interim waiver, the specified variable-speed coil-only single-split models that are subject of the waiver cannot be tested under the existing test procedure because appendix M does not include provisions for determining certain air volume

rates for variable-speed coil-only single-split systems. Typical variable-speed single-split systems have a communicating system, *i.e.*, the outdoor units and indoor units communicate and indoor unit air flow varies based on the operation of the outdoor unit. However, as presented in GD Midea's petition, its variable-speed outdoor units are non-communicative systems and the indoor blower section maintains a constant indoor blower fan speed.

III. Requested Alternate Test Procedure

EPCA requires that manufacturers use DOE test procedures to make representations about the energy consumption and energy consumption costs of products covered by the statute. (42 U.S.C. 6293(c)) Consistent representations are important for manufacturers to use in making representations about the energy efficiency of their products and to demonstrate compliance with applicable DOE energy conservation standards. Pursuant to its regulations applicable to waivers and interim waivers from applicable test procedures at 10 CFR 430.27, and after consideration of public comments on the petition, DOE will consider setting an alternate test procedure for the equipment identified by GD Midea in a subsequent Decision and Order.

In its petition, GD Midea requests that specified basic models listed in the petition be tested according to the test procedure for central CACs and HPs prescribed by DOE at appendix M, except that for coil-only systems, the cooling full-load air volume rate is also used as the cooling intermediate and cooling minimum air volume rates, and the heating full-load air volume rate is used as the heating intermediate air volume rate.

IV. Summary of Grant of an Interim Waiver

DOE has reviewed GD Midea's petition for interim waiver, the alternate procedure requested by GD Midea, and public-facing materials (e.g., marketing materials, product

specification sheets, and installation manuals) for the units identified in its petition. The public-facing materials that DOE reviewed support GD Midea's assertion that the units it identifies are installed as variable-speed coil-only systems, in which the indoor fan speed remains constant at full and part-load operation. Since there is no variability in indoor fan speed, using the cooling full-load air volume rate for the cooling intermediate and cooling minimum air volume rates, and the heating full load air volume rate as the heating intermediate air volume rate appears appropriate. Based on this review, the alternate test procedure appears to allow for the accurate measurement of efficiency of these products, while alleviating the testing problems associated with GD Midea's implementation of CAC and HP testing for the basic models specified in GD Midea's petition. Consequently, GD Midea's petition for waiver will likely be granted.

Furthermore, DOE has determined that it is desirable for public policy reasons to grant GD Midea immediate relief pending a determination on the petition for waiver. For the reasons stated above, DOE has granted an interim waiver to GD Midea for the specified CAC and HP basic models in GD Midea's petition.

Therefore, DOE has issued an **Order**, stating:

(1) GD Midea must test and rate the GD Midea Heating & Ventilating Equipment Co., Ltd brand and Bosch Thermotechnology Corp brand single-split CAC and HP basic models MOVA-36HDN1-M18M and MOVA-60HDN1-M18M (which contain individual combinations that each consist of an outdoor unit that uses a variable speed compressor matched with a coil-only indoor unit, and is designed to operate as part of a non-communicative system in which the compressor speed varies based only on controls located in the outdoor unit and the indoor blower unit maintains a constant indoor blower fan speed), using the alternate test procedure set forth in paragraph (2).

GD Midea basic models MOVA-36HDN1-M18M and MOVA-60HDN1-M18M include the following individual combinations listed by brand name:

GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD (Brand)			BOSCH THERMOTECHNOLOGY CORP (Brand)		
Basic Model Number	Outdoor Unit	Indoor Unit	Basic Model Number	Outdoor Unit	Indoor Unit
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**2430ANTF	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*2430ANTD
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**2430BNTF	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*2430BNTD
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**3036ANTD	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*3036ANTD
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**3036BNTD	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*3036BNTD
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**3036CNTD	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*3036CNTD
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4248BNTF	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4248BNTF
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4248CNTF	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4248CNTF
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4248DNTF	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4248DNTF
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4860CNTF	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4860CNTF
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4860DNTF	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4860DNTF

(2) The applicable method of test for the GD Midea basic models identified in paragraph (1) is the test procedure for CACs and HPs prescribed by DOE at 10 CFR part 430, subpart B, appendix M, except that, for coil-only combinations: the cooling full-load air volume rate as determined in section 3.1.4.1.1.c of appendix M shall also be used as the cooling intermediate and cooling minimum air volume rates, and the heating full-load air volume rate as determined in section 3.1.4.4.1.a of appendix M shall also be used as the heating intermediate air volume rate, as detailed below. All other requirements of appendix M and DOE's regulations remain applicable.

In 3.1.4.2, *Cooling Minimum Air Volume Rate*, include:

f. For ducted variable-speed compressor systems tested with a coil-only indoor unit, the cooling minimum air volume rate is the same as the cooling full-load air volume rate determined in section 3.1.4.1.1.c.

In 3.1.4.3, *Cooling Intermediate Air Volume Rate*, include:

d. For ducted variable-speed compressor systems tested with a coil-only indoor unit, the cooling intermediate air volume rate is the same as the cooling full-load air volume rate determined in section 3.1.4.1.1.c.

In 3.1.4.6, *Heating Intermediate Air Volume Rate*, include:

d. For ducted variable-speed compressor systems tested with a coil-only indoor unit, the heating intermediate air volume rate is the same as the heating full-load air volume rate determined in section 3.1.4.4.1.a.

(3) Representations. GD Midea is permitted to make representations about the efficiency of basic models that meet the requirements of paragraph (1) for compliance, marketing, or other purposes only to the extent that the basic model has been tested in accordance with the provisions set forth in the alternate test procedure and such representations fairly disclose the results of such testing in accordance with 10 CFR 429.16 and 10 CFR part 430, subpart B, appendix M.

(4) This interim waiver shall remain in effect consistent with the provisions of 10 CFR 430.27(h) and (k).

(5) This interim waiver is issued to GC Midea on the condition that the statements, representations, and documentary materials provided by the petitioner are valid. If GD Midea makes any modifications to the controls or configurations of these basic models, the waiver would no longer be valid and GD Midea would either be required to use the current Federal test method or submit a new application for a test procedure waiver. DOE may revoke or modify this

waiver at any time if it determines the factual basis underlying the petition for waiver is incorrect, or the results from the alternate test procedure are unrepresentative of the basic models' true energy consumption characteristics.

(6) Granting of this interim waiver does not release GD Midea from the certification requirements set forth at 10 CFR part 429.

DOE makes decisions on waivers and interim waivers for only those basic models specifically set out in the petition, not future basic models that may be manufactured by the petitioner. GD Midea may submit a new or amended petition for waiver and request for grant of interim waiver, as appropriate, for additional basic models of central air conditioners and heat pumps. Alternatively, if appropriate, GD Midea may request that DOE extend the scope of a waiver or an interim waiver to include additional basic models employing the same technology as the basic model(s) set forth in the original petition consistent with 10 CFR 430.27(g).

V. Request for Comments

DOE is publishing GD Midea's petition for waiver in its entirety, pursuant to 10 CFR 430.27(b)(1)(iv). The petition did not identify any information as confidential business information. The petition includes a suggested alternate test procedure, as specified in section III of this notice, to determine the energy consumption of GD Midea's specified CAC and HP basic models. DOE may consider including the alternate procedure specified in the Order in a subsequent Decision and Order.

DOE invites all interested parties to submit in writing by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**, comments and information on all aspects of the petition, including the alternate test procedure. Pursuant to 10

CFR 430.27(d), any person submitting written comments to DOE must also send a copy of such comments to the petitioner. The contact information for the petitioner is Jack Wang, Certification Engineer, GD Midea Heating & Ventilating Equipment Co., Ltd., Midea Industrial City, Beijiao, Shunde District Foshan, Guangdong, P.R.C. 528311, *chao7.wang@midea.com.cn*.

Submitting comments via *<http://www.regulations.gov>*. The *<http://www.regulations.gov>* web page will require you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to *<http://www.regulations.gov>* information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (CBI)). Comments submitted through *<http://www.regulations.gov>* cannot be claimed as CBI. Comments received through the website

will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through <http://www.regulations.gov> before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that <http://www.regulations.gov> provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery, or mail. Comments and documents submitted via email, hand delivery, or mail also will be posted to <http://www.regulations.gov>. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information on a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via mail or hand delivery, please provide all items on a CD, if feasible. It is not necessary to submit printed copies. No facsimiles (faxes) will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English and free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. According to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery two well-marked copies: one copy of the document marked confidential including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. Submit these documents via email or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include (1) a description of the items, (2) whether and why such items are customarily treated as confidential within the industry, (3) whether the information is generally known by or available from other sources, (4) whether the information has previously been made available to others without obligation concerning its confidentiality, (5) an explanation of the competitive injury to the submitting person which would result from public disclosure, (6) when such information might lose its confidential character due to the passage of time, and (7) why disclosure of the information would be contrary to the public interest.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

Signed in Washington, DC, on May 17, 2018.

Kathleen B. Hogan,
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy.



GD Midea Heating & Ventilating Equipment Co., Ltd.
Midea Industrial City, Beijiao, Shunde District
Foshan, Guangdong, P.R.C. 528311

October 27, 2017

Lucy Debutts

Building Technologies Program

U.S. Department of Energy

Mailstop EE-2J

Forrestal Building, 1000 Independence Avenue SW.

Washington, DC 20585-0121

Submitted via email to the following address: AS_Waiver_Requests@ee.doe.gov

Petition for Waiver and Interim Waiver for certain GD Midea's variable speed coil-only single-split systems

Dear Ms. Lucy Debutts:

Pursuant to 10 CFR 430.27, GD Midea Heating & Ventilating Equipment Co., Ltd. (GD Midea) respectfully submits this petition for waiver, and request for interim waiver with regards to its variable compressor systems with coil-only configuration listed in Table 1 of page 3.

The scope of the test procedure for central air conditioners (CAC) and heat pumps (HP) found in Appendix M to Subpart B of 10 CFR Part 430 (hereinafter referred to as "Appendix M") includes single-split air-conditioners and heat pumps that are coil-only systems and having a variable-speed compressor (hereinafter referred to as "variable-speed coil-only single-split systems"). However, whereas Appendix M provides some provisions to test variable-speed coil-only single-split system overall, it does not provide specific coverage for determining cooling intermediate air volume rate, cooling minimum air volume rate, and heating intermediate air volume rate for these products. This creates difficulty in applying Appendix M to test variable-speed coil-only single-split systems. GD Midea seeks a test procedure waiver to test its variable-speed coil-only single-split systems using the proposed alternative test procedure prescribed in section V of this petition. We hereby also request an interim waiver. The granting of an interim waiver is crucial to GD Midea as it will allow us to accurately rate, certify, and provide US consumers with highly efficient variable-speed coil-only single-split systems.

(a) GD Midea Heating & Ventilating Equipment Co., Ltd.



GD Midea Heating & Ventilating Equipment Co., Ltd. (also known as Midea Commercial Air Conditioner, MCAC) is a division of the Midea Group founded in 1968. It was established in 1999 and manufactured China's first Variable Refrigerant Flow (VRF) system in 2000. Midea is among the world's largest manufacturers of electric motors, compressors and HVAC equipment with an established global footprint of more than 200 subsidiaries, over 60 overseas branches and 12 strategic business units.

MCAC is a global leading manufacturer in commercial and residential air-conditioning technology, including inverter variable speed technology. Through its R&D division, GD Midea strives to develop and manufacture the most energy-efficient central air conditioner and heat pump systems for residential use, including high efficiency variable speed systems.

(b) Background

Variable speed compressor technology has been proven to be an effective way to improve the overall energy efficiency of air-conditioning products. GD Midea's variable-speed outdoor condensing unit was developed specifically for US consumers to benefit from ease of installation and use, as well as significant energy-efficiency saving.

Currently, most units installed in the U.S. market are single and two-stage systems. It is our understanding that most variable speed split system requires a proprietary communicating method and exclusively works with a specific blower-coil unit from the same manufacturer. To provide consumers a more convenient replacement of their single or two-stage systems, GD Midea's variable speed outdoor units are designed as non-communicative systems. This unique technical characteristic makes GD Midea's systems easy to install and service.

The scope of Appendix M includes variable-speed coil-only single-split systems. However, Appendix M lacks coverage for manufacturers to test these systems to the fullest extent of the test procedure. For example, Appendix M does not provide specific coverage for these products to determine cooling intermediate air volume rate, cooling minimum air volume rate and heating intermediate air volume rate. This void in the test procedure makes it impossible for manufacturers to test a variable-speed system in a coil-only configuration in full compliance with the test procedure.

More specifically, Table 8 and Table 14 present in Appendix M provide respectively cooling and heating mode test conditions for units having a variable-speed compressor.

These tables prescribe six air volume rates (cooling minimum, cooling intermediate, cooling full-load, heating minimum, heating intermediate, heating full-load) at which units with variable speed compressor need to be tested. These six air volume rates are then determined using sections 3.1.4.1 through 3.1.4.6.

However, problem arises when trying to determine cooling minimum, cooling intermediate, and heating



intermediate for variable-speed coil-only single-split systems, as respective sections 3.1.4.2, 3.1.4.3, and 3.1.4.6 do not provide coverage for these systems.

To remedy this situation, GD Midea is proposing an alternative test procedure (see section V of this petition) that provides additional coverage to Appendix M for variable-speed coil-only single-split systems, preserves the spirit and intent of the test procedure, and results in the generation of ratings that are representative of the systems' true energy consumption characteristics.

(c) Basic Models for Which Waiver Is Requested

GD Midea is requesting a waiver and interim waiver to test its single-split CAC and HP outdoor unit basic models that use variable speed compressor and are matched with coil-only indoor units, using the proposed alternative test procedure described in section V of this petition. Specifically, GD Midea waiver and interim waiver request covers the following basic models:

Table 1

GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD			BOSCH THERMOTECHNOLOGY CORP		
Basic Model Number	Outdoor Unit	Indoor Unit	Basic Model Number	Outdoor Unit	Indoor Unit
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**2430ANTF	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*2430ANTD
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**2430BNTF	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*2430BNTD
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**3036ANTD	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*3036ANTD
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**3036BNTD	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*3036BNTD
MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**3036CNTD	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*3036CNTD
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4248BNTF	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4248BNTF
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4248CNTF	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4248CNTF
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4248DN1F	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4248DN1F
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4860CNTF	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4860CNTF
MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4860DN1F	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4860DN1F

These systems have the following characteristics:

- 1、 There is no communication between the variable-speed outdoor unit and the indoor unit;

- 2、 The air volume rate remains constant at all time.

(d) Grounds for Test Procedure Waiver

Appendix M prescribes that on or after July 5, 2017 and prior to January 1, 2023, any representations, including compliance certifications, made with respect to the energy use, power, or efficiency of central air conditioners and central air conditioning heat pumps must be based on the results of testing pursuant to appendix M. In addition, ratings generated using Appendix M are then used to determine compliance with the provisions of paragraph (c) of 10 CFR 430.32, energy and water conservation standards for air-conditioners and heat pumps.

Given the fact that variable-speed coil-only single-split systems are included in the scope of Appendix M and 10 CFR 430.32, absence of comprehensive coverage for these products in Appendix M hinders manufacturers in (1) establishing ratings in compliance with federal law, (2) determining compliance with DOE's minimum efficiency standards present in 10 CFR 430.32, (3) complying with DOE's certification requirements set forth in 10 CFR 429, and (4) ultimately distributing these products in commerce.

(e) Alternative Test Procedure

GD Midea is proposing to use the following alternative test procedure to test its variable-speed coil-only single-split systems. The proposed alternative test procedure developed by GD Midea is based on the Appendix M and fill the voids that currently exist in the test procedure to adequately cover these products. It is to be noted that GD Midea has only evaluated and confirmed the suitability and practicability of the proposed alternative test procedure on its own products which are listed in Section III which have the following characteristics:

- 1、 No communication between the variable-speed outdoor unit and the indoor unit;
- 2、 The air volume rate remains constant at all time.

As previously mentioned, the main issue GD Midea encountered when trying to rate its variable-speed coil-only single-split systems to appendix M is the absence of specific provisions for cooling intermediate air volume rate, cooling minimum air volume rate and heating intermediate air volume rate.

Considering the unique technical characteristics of our systems mentioned above, GD Midea is proposing to determine the six air volume rates in Table 8 and Table 14 as follow:

- Cooling full-load air volume rate: Determined using 3.1.4.1.1.c (no change proposed)

- Cooling intermediate air volume rate: Use the cooling full-load air volume rate as the cooling intermediate air volume rate. Use the final control settings as determined when setting the cooling full-load air volume rate, if necessary to reset to the cooling full-load air volume rate obtained in section 3.1.4.1.1.c
- Cooling minimum air volume rate: Use the cooling full-load air volume rate as the cooling minimum air volume rate. Use the final control settings as determined when setting the cooling full-load air volume rate, if necessary to reset to the cooling full-load air volume rate obtained in section 3.1.4.1.1.c
- Heating full-load air volume rate: Determined using 3.1.4.4.1.a (no change proposed)
- Heating intermediate air volume rate: Use the heating full-load air volume rate as the heating intermediate air volume rate. Use the final control settings as determined when setting the heating full-load air volume rate, if necessary to reset to the heating full-load air volume rate obtained in section 3.1.4.4.1.a
- Heating minimum air volume rate: Determined using 3.1.4.5.1.a (no change proposed)

(f) Technical Justification for Alternative Test Procedure

GD Midea's systems which are listed in Section III of this petition have significantly distinguishable technical differences with conventional variable capacity units:

- Conventional variable speed single-split systems are typically communicating systems, i.e. the condenser units and indoor units communicate, and indoor unit air flow varies.
- GD Midea's variable speed single-split systems differ as the variable speed control logic resides with the condenser (outdoor unit) and no communication is required between indoor and outdoor unit, and indoor air flow does NOT vary.

When our systems operate, the indoor air volume rate remains constant while the condenser unit modulates compressor speed in response to the different ambient environment.

(g) Similar Products

GD Midea is aware of the following manufacturers of single-split residential central air conditioners and heat pumps that offer systems have variable speed compressor: Carrier Corporation, Daikin Industries, Lennox International Inc., Nortek Global HVAC, Rheem Sales Company, Trane and York by Johnson Controls.

(h) Petition for Interim Waiver

Pursuant to 10 CFR 430.27, GD Midea is also requesting an interim waiver to test GD Midea's variable coil-only systems. Interim relief is important to ensure that GD Midea can (1) establish ratings in compliance with

federal law, (2) determine compliance with DOE's minimum efficiency standards present in 10 CFR 430.32, (3) comply with DOE's certification requirements set forth in 10 CFR 429, and (4) distribute its products in commerce and provide US consumers with systems that offer ease of use and installation, as well as significant energy-efficiency savings, while DOE considers the merits of GD Midea's petition for waiver.

(i) Arguments for Granting Waiver and Interim Waiver

GD Midea believes there are strong arguments for granting its petition:

- From a procedural stand-point, GD Midea has identified a void in the current test procedure and proposed an alternative test procedure that is technically sound, proven, easily justifiable, aligned with the spirit and intent of the existing Appendix M test procedure, and which provides ratings that are accurate and representative of the systems' true energy consumption characteristics.
- From a competitive stand-point, the current void in the test procedure puts GD Midea, as well as any other manufacturers' whose products may be impacted, at a significant competitive disadvantage.
- From a public policy stand-point, the current void in the test procedure prevents the distribution in commerce of products that offer US consumer with systems that are easy to install and use, and which provide significant energy-efficiency savings.

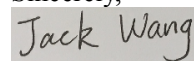
For these reasons, GD Midea urges the Department to grant an interim waiver while considering the petition for waiver set out above.

(j) Conclusion

For the reasons stated above, GD Midea respectfully requests that DOE grants this petition for waiver to test its variable-speed coil-only single-split systems using Appendix M to Subpart B of 10 CFR part 430 with the supplemental instructions provided in Section V of this petition. GD Midea further requests that DOE grants its request for an interim waiver while its petition for waiver is under consideration.

Should you have any questions or would like to discuss this request, please contact me at chao7.wang@midea.com.cn. We greatly appreciate your attention to this matter.

Sincerely,



Jack Wang
Certification Engineer
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